

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Application No. 10/779,859

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Currently Amended*) A lens system comprising:

a positive component, positioned in an optical path of incident light, comprising a first negative lens, a double-convex lens and a holographic optical element, respectively; and
a second negative lens positioned in the optical path; and
an auxiliary double-convex lens positioned in an optical path between the positive component and the second negative lens, wherein the auxiliary double-convex lens has a magnifying power similar to the lens system.

2. (*Previously Presented*) The lens system of claim 1, wherein the holographic optical element is disposed on at least one surface of the first negative lens and the double-convex lens comprising the positive component.

3. (*Original*) The lens system of claim 1, wherein the first negative lens is made of polycarbonate.

4. (*Previously Presented*) The lens system of claim 1, wherein the first negative lens has a magnifying power ranging from 0.1 to 0.2.

5. (*Original*) The lens system of claim 1, wherein the second negative lens is made of polystyrene.

6. (*Previously Presented*) The lens system of claim 1, wherein the second negative lens has a magnifying power ranging from 0.5 to 0.7.

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7. (*Previously Presented*) The lens system of claim 1, wherein at least one of the first negative lens, the double-convex lens and the second negative lens has at least one aspheric surface.

8. (*Currently Amended*) A lens system comprising:

a positive component, positioned in an optical path of incident light, comprising a positive lens, a double-convex lens and a holographic optical element, respectively;

a negative lens positioned in the optical path; and

an auxiliary double-convex lens positioned in an optical path between the positive component and the negative lens, wherein the auxiliary double-convex lens has a magnifying power similar to the lens system.

9. (*Previously Presented*) The lens system of claim 8, wherein the holographic optical element is disposed on at least one surface of the positive lens and the double-convex lens comprising the positive component.

10. (*Previously Presented*) The lens system of claim 8, wherein the positive lens in the form of a meniscus is made of acryl material.

11. (*Original*) The lens system of claim 8, wherein the positive lens is positioned at a distance of 0.15 to 0.25 times a focal length of the lens system from an object imaged by said lens system.

12. (*Original*) The lens system of claim 8, wherein the negative lens is made of polystyrene.

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13. (*Previously Presented*) The lens system of claim 8, wherein the negative lens has a magnifying power ranging from 0.2 to 0.3.

14. (*Cancelled*).

15. (*Currently Amended*) The lens system of claim 8[[14]], wherein the auxiliary element is made of acryl material.

16. (*Previously Presented*) The lens system of claim 8, wherein the holographic optical element has a magnifying power ranging from 0.01 to 0.1.

17. (*Previously Presented*) The lens system of claim 8, wherein the holographic optical element has a phase profile V_H defined by the following equation:

$$V_H = A_1y^2 + A_2y^4 + A_3y^6$$

where A_1 is a coefficient that is proportional to a magnifying power of the holographic optical element, A_2 is a coefficient that is proportional to spherical aberration caused by the positive component, A_3 is a coefficient that is proportional to spherical aberration caused by the negative lens, and y is the distance from an optical axis of the lens system measured at right angle to the optical axis.

18. (*Previously Presented*) The lens system of claim 8, wherein the double-convex lens is made of acryl material.

19. (*Previously Presented*) The lens system of claim 8, wherein the double-convex lens has a magnifying power ranging from 0.35 to 0.4.

20. (*Currently Amended*) An objective lens system for imaging a light from an object, the objective lens system comprising:

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a lens system comprising:

a positive component, positioned in an optical path of the light from the object,
comprising a first negative lens, a double-convex lens and a holographic optical element,
respectively; and

a second negative lens positioned in the optical path after the positive component;
and
an auxiliary double-convex lens positioned in an optical path between the positive
component and the second negative lens, wherein the auxiliary double-convex lens has a
magnifying power similar to the lens system.

21. (*Currently Amended*) An objective lens system for imaging a light from an object, the
objective lens system comprising:

a lens system comprising:

a positive component, positioned in an optical path of the light, comprising a
positive lens, a double-convex lens and a holographic optical element, respectively; and

a negative lens positioned in the optical path after the positive component; and
an auxiliary double-convex lens positioned in an optical path between the positive
component and the negative lens, wherein the auxiliary double-convex lens has a magnifying
power similar to the lens system.

22. (*Currently Amended*) An optical projection system for projecting a light emitted from
an optical light source on a screen, the optical projection system comprising:

a lens system comprising:

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a positive component, positioned in an optical path of the light, comprising a first negative lens, a double-convex lens and a holographic optical element; and
a second negative lens positioned in the optical path before the positive component; and

an auxiliary double-convex lens positioned in an optical path between the positive component and the second negative lens, wherein the auxiliary double-convex lens has a magnifying power similar to the lens system; and

a coupler configured to connect the optical light source to the lens system.

23. (*Currently Amended*) An optical projection system for projecting a light emitted from an optical light source on a screen, the optical projection system comprising:

a lens system comprising:

a positive component, positioned in an optical path of the light, comprising a positive lens, a double-convex lens and a holographic optical element;

a negative lens positioned in the optical path before the positive component; and
an auxiliary double-convex lens positioned in an optical path between the positive component and the negative lens, wherein the auxiliary double-convex lens has a magnifying power similar to the lens system; and

a coupler configured to connect the optical light source to the lens system.